What is claimed is:

1. In a disk drive comprising a base, a cover, a disk being formatted with embedded servo sectors, a rotary actuator, a head affixed to the rotary actuator for reading the servo sectors, a sensor mounted for detecting acceleration of the disk drive, and a sampled servo control system for processing the detected acceleration and the servo sectors read by the head to control motion of the rotary actuator, a method for reducing the effects of rotational vibration in the disk drive, the method comprising:

sensing vibration by the sensor and generating a corresponding sensor data;

deriving a statistical sensor (SS) value based on the sensor data;

deriving a statistical position error signal (SPES) value from the servo sectors read by the head;

comparing the SS value to a SS-threshold value;

comparing the SPES value to a SPES-threshold value; and

generating a feed-forward command effort signal for reducing the effects of rotational vibration if the SS value exceeds the SS-threshold value and if the SPES value exceeds the SPES-threshold value.

2. The method of claim 1, wherein deriving the SPES value comprises:

receiving a series of position error signal (PES) values during a pre-selected interval based on a servo-sampling rate;

determining an absolute value for each of the PES values; and

calculating an average value of the determined absolute values.

3. The method of claim 1, wherein deriving the SPES value comprises:

receiving a series of position error signal (PES) values during a pre-selected interval based on a servo-sampling rate; and

calculating a root mean square (RMS) value of the PES values.

4. The method of claim 1, wherein deriving the SS value comprises:

receiving a series of the generated sensor data during a pre-selected interval based on a servo-sampling rate; and

determining an absolute value for each of the sensor data; and

calculating an average value of the determined absolute values.

5. The method of claim 1, wherein deriving the SS value further comprises:

receiving a series of the generated sensor data during a pre-selected interval based on a servo-sampling rate; and

calculating a root mean square (RMS) value of the received sensor data.

6. The method of claim 1, wherein the sensor comprises a rotary accelerometer.

7. The method of claim 1, wherein each of the SS-threshold and the SPES-threshold values are obtained from a characterization testing of a plurality of disk drives.

8. The method of claim 1, wherein the disk drive further comprises a printed circuit board assembly (PCBA) and wherein the sensor is mounted on the (PCBA).

9. In a disk drive comprising a base, a cover, a disk being formatted with embedded servo sectors, a rotary actuator, a head affixed to the rotary actuator for reading the servo sectors, first and second sensors mounted for detecting acceleration of the disk drive, and a sampled servo control system for processing the detected acceleration and the servo sectors read by the head to control motion of the rotary actuator, a method for reducing the effects of rotational vibration in the disk drive, the method comprising:

sensing vibration by the first and second sensors and generating a corresponding first and second sensor data;

deriving a statistical sensor (SS) value based on the first and second sensor data;

deriving a statistical position error signal (SPES) value from the servo sectors read by the head;

comparing the SS value to a SS-threshold value;

comparing the SPES value to a SPES-threshold value; and

generating a feed-forward command effort signal for reducing the effects of rotational vibration if the SS value exceeds the SS-threshold value and if the SPES value exceeds the SPES-threshold value.

10. The method of claim 9, wherein deriving the SPES value comprises:

receiving a series of position error signal (PES) values during a pre-selected interval based on a servo-sampling rate;

determining an absolute value for each of the PES values; and

calculating an average value of the determined absolute values.

11. The method of claim 9, wherein deriving the SPES value comprises:

receiving a series of position error signal (PES) values during a pre-selected interval based on a servo-sampling rate; and

calculating a root mean square (RMS) value of the PES values.

12. The method of claim 9, wherein deriving the SS value comprises:

receiving a series of the generated first and second sensor data during a pre-selected interval based on a servo-sampling rate; and

generating a differential sensor value for each of the received first and second sensor data in the series.

13. The method of claim 12, wherein deriving the SS value further comprises:

determining an absolute value for each of the differential sensor values; and

calculating an average value of the determined absolute values.

14. The method of claim 12, wherein deriving the SS value further comprises:

calculating a root mean square (RMS) value of the differential sensor values.

15. The method of claim 9, wherein each of the first and second sensors comprises a linear accelerometer.

16. The method of claim 9, wherein each of the SS-threshold and the SPES-threshold values are obtained from a characterization testing of a plurality of disk drives.

17. The method of claim 9, wherein each of the first and second sensors has a sensitivity axis, and wherein each sensor is oriented with its sensitivity axis at a pre-selected angle relative to an orthogonal axis of the disk drive.

18. The method of claim 17, wherein the pre-selected angle is 45 degrees.

19. The method of claim 9, wherein the disk drive further comprises a printed circuit board assembly (PCBA) and wherein the first and second sensors are mounted on the (PCBA).